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April 20, 2012

Mr. Rodney R. McInnis
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**RE: Habitat Expansion Agreement Annual Report and Comments in Response to
60-Day Consultation Period**

Dear Mr. McInnis:

The purpose of this letter is to transmit the enclosed Annual Status Report (Annual Report) and provide comments for consideration by the National Marine Fisheries Service (NMFS) in response to the 60-day consultation period on Pacific Gas and Electric Company (PG&E) and the California Department of Water Resources' (DWR) Final Habitat Expansion Plan (HEP). PG&E and DWR (the Licensees) prepared the Final HEP and submitted it to NMFS, for approval, on November 19, 2010, as required by the *Amended Habitat Expansion Agreement for Central Valley Spring-Run Chinook Salmon and California Central Valley Steelhead* (Amended HEA) dated March 2011.

Annual Report

The Annual Report (Attachment A) is required by Section 6.2 of the Amended HEA. The Annual Report describes the milestones reached and progress achieved in implementing the habitat expansion actions(s) contemplated under the Amended HEA and covers the period beginning November 19, 2010, when the Final HEP was submitted, through March 31, 2012. It includes a description of the reasons for and results of amending the HEA.

Comments on Final HEP in Response to NMFS 60-Day Consultation Period

The Amended HEA requires that, before approving the Final HEP, NMFS commence a 60-day consultation period with the HEA signatories, State Water Resources Control

Board, and other stakeholders. During this consultation period, NMFS is to consider comments received on the Final HEP and specifically address comments provided by the HEA signatories or other stakeholders, including comments pertaining to whether the habitat expansion action(s) recommended by the Licensees in the Final HEP are already existing requirements and commitments (i.e., actions that are expected to occur in a timeframe comparable to implementation of the proposed habitat expansion action[s]; Section 3.2 of the Amended HEA). Additionally, NMFS will consult with U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (DFG) to consider the potential benefits and impacts of recommended habitat expansion action(s) on resident fish at the location of the action(s). On February 21, 2012, NMFS initiated the 60-day consultation period as required by Section 4.2.2 of the Amended HEA.

NMFS scheduled three meetings on February 21, 24, and 28, 2012 (the meetings). The stated purpose of the meetings was to provide a briefing on NMFS findings in their review of the HEP, solicit comments, discuss a schedule for final determination, and discuss options for moving forward. The Licensees attended all three of the meetings and participated in the presentation by providing an overview of the Amended HEA, the steps taken to meet the habitat expansion objectives of the Amended HEA, and a description of the actions proposed by the Licensees in the Final HEP. NMFS provided a summary of the actions they undertook in their review, which included the solicitation of independent reviews of the HEP by Carl Mesick (formerly a NMFS contractor, now with USFWS), David Crowder (NMFS), and Stillwater Sciences. The Mesick and Crowder papers were made available at the meetings. The Stillwater Sciences paper was given to Greg Pasternack (UC Davis professor of watershed hydrology and geomorphology) for review prior to distribution to others. To date, that paper has not been available for the Licensees to review. Following the presentations, there was an open discussion amongst the attendees.

There were three major areas of concern discussed by NMFS and the attendees during the meetings regarding the habitat expansion actions proposed in the Final HEP:

- Eligibility of the actions proposed in the Final HEP,
- Determination of whether or not the Habitat Expansion Threshold (HET) is met by the actions proposed in the HEP, and
- Long-term integrity of the actions proposed in the HEP.

The Licensees have the following comments on each issue:

- Eligibility of the actions proposed in the Final HEP

The Draft HEP was submitted to NMFS on November 20, 2009. In its letter, dated February 18, 2010, commenting on the Draft HEP, NMFS raised the issue of the eligibility of the actions proposed in the HEP. The Licensees responded to those comments in Section 4.3.10 of the Final HEP, explaining the basis for the Licensees' determination that

the actions proposed in the HEP are eligible under the terms of the HEA. In summary, the actions are eligible because while they will complement numerous actions being undertaken by others, they were separate and distinct from any Existing Requirements or Commitments in effect at the time the Final HEP was submitted for approval.

On February 29, 2012, the day after the last stakeholder meeting, NMFS issued a new Biological Opinion for the Army Corps of Engineers' operation and maintenance of Englebright and Daguerre Point dams and Englebright Reservoir (Corps BiOp). Among the many measures listed in the Reasonable and Prudent Alternative (RPA) section of the Corps BiOp, NMFS has included two of the actions proposed in the Licensees' Final HEP. Specifically, Reasonable and Prudent Alternative 5 (RPA 5), Channel Restoration Program, of the Corps BiOp includes the following actions proposed in the HEP:

- Sinoro Bar spawning habitat expansion – expand spawning habitat in the Sinoro Bar geomorphic unit of the Englebright Dam Reach of the Lower Yuba River (described in Section 3.3.1 of the Final HEP); and
- Narrows Gateway spawning habitat expansion – expand spawning habitat in the Narrows Gateway geomorphic unit of the Narrows Reach of the Lower Yuba River (described in Section 3.3.2 of the Final HEP).

Despite the perception of overlap between the actions proposed in the Final HEP and the measures listed in Corps BiOp RPA 5, the Licensees believe that the actions proposed in the Final HEP remain eligible, both for the reasons given in the Final HEP and for the reasons stated below.

It is certain that the actions proposed in the HEP would be beneficial to spawning of spring-run Chinook salmon if these actions are implemented, including the proposed segregation weir, if needed, and it is certain the sooner these actions are implemented, the sooner they will begin to help with recovery. The HEA clearly favors actions which can benefit the target species as soon as possible, rather than actions that may not be in place for many years. That is why Section 3.2 of the HEA states that: existing requirements and conditions are *those that are expected to occur in a timeframe comparable to the actions in the HEA*. As explained below, the measures listed in RPA 5 of the Corps BiOp cannot be considered an Existing Requirement and Condition because the implementation of the RPA measures are, at best, many years away and, in fact, may never be implemented if left to the Corp due to a variety of factors. In sharp contrast, implementation of the actions proposed in the Final HEP can begin upon NMFS' approval.

Sections 3.1 and 3.2 of the Amended HEA describe "eligible" actions under the HEA.¹ Section 3.1 states in part: "Actions identified in other venues, including unfunded actions, are acceptable for consideration [*as eligible actions*], provided that implementation of this

¹ The language was the same in the original HEA.

Agreement results in a net expansion of habitat over any Existing Requirements and Commitments, whether by Licensees or others.”² The term “Existing Requirements and Commitments” is discussed in Section 3.2. Section 3.2 is not a definition or a complete list of actions included under the term. Instead, it is a descriptive section, as can be seen by the term “may”: “Existing Requirements and Commitments *may* include...” (emphasis added). The term is further described as: “intended to encompass actions expected to occur in a timeframe comparable to implementation of habitat expansion action(s) under this Agreement.”

The key consideration, then, is whether the actions proposed in the HEP can, or are likely to be implemented in a timeframe *before* actions under the Corps BiOp RPA 5. If the timeframe is sooner, then the actions proposed in the HEP are “eligible,” and conversely, the Corps BiOp RPA actions are not Existing Requirements and Commitments. This is because there would be no actual temporal overlap between implementation of the actions proposed in the HEP and the measures listed in Corps BiOp RPA 5. An important feature of the HEA was the agreement to research and implement actions to aid the threatened and endangered fish in a more expedient and effective way than would result from a protracted disagreement.³

The Licensees can begin the design and permitting phases of the actions proposed in the HEP as soon as NMFS approves the Final HEP. Assuming a 1- to 2-year design/permitting period and a 1- to 2-year construction period, the Licensees would have these actions implemented in 2 to 4 years.

In contrast, the Corps faces serious delay in implementing the measures listed in the Corps BiOp RPA due to regulatory proceedings and funding issues. Indeed, it is possible that the Corps may never be able to implement the measures in Corps BiOp RPA 5. Implementation of the measures listed in the RPA will take an unknown amount of time; but certainly it will, at best, take many years, since stakeholders, including PG&E, have only just begun to try to resolve the many issues associated with it. Clarification of specific analyses and requirements is needed, and challenges to some of these analyses, requirements, and the BiOp itself are likely, as the scope of the Corps BiOp reaches well beyond the scope of the “proposed action” -- continued operation of Englebright and Daguerre Point dams -- defined by the Corps when it requested the ESA consultation that led to the BiOp. It is questionable whether the Corps has authority to perform many of the

² The “net expansion” question is discussed below.

³ The HEA’s discussion of the term “Existing Requirements and Conditions” states that the term “is intended to encompass” actions in a comparable timeframe, and Section 3.2 includes an illustrative list of requirements that “may” meet the definition. Relevant here is Section 3.2 (d), which lists RPAs “of any final Biological Opinion that has been issued at the time NMFS approves the” proposed actions. While the Corps BiOp has been issued before NMFS has made a final determination on the proposed HEP actions, this is not determinative of eligibility. Licensees note again that the list is illustrative, using the term “may”. Licensees believe the determining factor is the timing of implementation, which is explained in the body of Section and which is more important than the list of potential actions that “may” be included.

RPA actions, including RPA5, because the link to the “proposed action” under the Corps BiOp is disputed. From the funding standpoint, the Corps would need to acquire adequate funding through federal legislation – a tremendously uncertain prospect, particularly in this period of massive federal deficits and economic constraint – and one likely to take many years, at best. Without such funding, the Corps cannot even begin to initiate the measures listed in the RPA. In contrast, the Licensees could begin initiation almost immediately. Thus, the measures listed in Corps BiOp RPA 5 do not meet the test of an Existing Requirement and Commitment, and the actions proposed in the Final HEP are eligible under the Amended HEA. The mere listing of target implementation dates for the measures listed in the Corps BiOp has little, if any, effect on the prospects for actual implementation of these measures, as no implementation can occur absent funding and resolution of the other issues listed above.

If NMFS decides that the Corps BiOp is an Existing Requirement or Commitment that makes the actions proposed in the HEP ineligible under the HEA, then no action on the Yuba River listed in the Corps BiOp would be able to pass the eligibility test. This raises the question of what possible actions could be considered eligible under the HEA. It took two years of concerted effort and over \$2 million for PG&E and DWR to identify, evaluate, and select the actions proposed in the Final HEP. And there is no “nearly as good, second place” actions standing behind the actions proposed in the HEP. Based on the comprehensive HEA evaluation/selection process, the Yuba River was found to be the most likely place to identify actions meeting the terms and conditions of the HEA. If the Corps BiOp is deemed to make the actions proposed in the HEP ineligible, then it is unlikely any actions on the Yuba could meet the HEA eligibility criteria, given the vast scope of the measures in the Corps BiOp RPA. That leaves little to fall back on for alternate actions under the HEA, and raises the disturbing prospect that even if such alternate actions could be identified, they too could be undermined by a subsequent BiOp or other administrative action that simply adopted what the Licensees had spent years developing.

Finally, the BiOp itself encourages the Corps to work with other parties to implement actions to aid the fish (see BiOp at 210 and 221, discussing possible other entities for the Corps to work with to implement RPAs). While the paragraph on p. 210, discussing implementing RPAs with other entities, does not specifically include the Licensees in their capacity under the HEA, neither does it exclude them. The Licensees could undertake the actions proposed in the HEP satisfying both the HEA and the associated RPAs in the BiOp.

- Determination of whether or not the Habitat Expansion Threshold (HET) is met by the Actions Proposed in the Final HEP

At the public consultation meetings, NMFS expressed a concern that the actions proposed in the HEA may not meet the HET. The HET is met when spawning, rearing, and adult holding habitat have been expanded to accommodate an estimated net increase of 2,000

to 3,000 spring-run Chinook salmon for spawning in the Sacramento River Basin (Section 2.2 of the Amended HEA). As stated in Section 6.1 of the Amended HEA, the Licensees are not obligated to guarantee or verify fish production or habitat utilization. The actual number of spring-run that return is determined to a large degree by factors occurring outside the Yuba River that are beyond the scope of the Amended HEA, including conditions in the Sacramento River, the Bay-Delta, and the Pacific Ocean.

The HET evaluation methodology used by the Licensees provided a consistent and transparent approach that directly related actions to be taken to previously identified habitat limitations in the HEP action area. Appendix N of the Final HEP provides a detailed description of the methodology. In summary, the method involved two consecutive steps:

1. The *quantity* of habitat for spawning by spring-run Chinook salmon was estimated based on the extent of habitat expansion and estimates of Chinook salmon spawning densities in the Yuba River and other Central Valley tributaries.
2. The *quality* of the expanded habitat for spring-run Chinook salmon was also evaluated. In this step, the estimated quantity of expanded habitat was adjusted to reflect existing habitat limitations across life stages of spring-run Chinook salmon. The evaluation of environmental conditions reduced the area-based spawner estimates to account for environmental limitations not addressed by the recommended actions, resulting in a more conservative estimate of contribution to the HET. Adjustments for environmental conditions were made by comparing the expected environmental conditions in the expanded habitat to the life-history needs of spring-run Chinook salmon.

The conclusion of this analysis was that the actions proposed in the HEP would provide sufficient habitat expansion for an additional 4,182 adult spring-run Chinook salmon, thus easily meeting the HET.

The actions proposed in the HEP also directly address an identified issue of the possibility that fall-run salmon would access, and also utilize, the area of improved spawning habitat; possibly reducing the effectiveness of the habitat for spring-run. The actions proposed in the HEP squarely address this issue by proposing an adaptive management program involving monitoring and additional actions up to, and including, potential installation of a seasonal segregation weir if monitoring shows it is needed to keep fall-run from diminishing the effectiveness of the actions for spring-run. California Department of Fish and Game supports this approach. Installation of a segregation weir, if needed, would not significantly reduce available spawning habitat for fall-run as the fall-run primarily spawn in Timbuctoo Bend below the proposed location of a segregation weir based on surveys conducted by the Yuba Accord River Management Team

In its evaluation of the Final HEP, NMFS is directed by the Amended HEA (Section 4.2.3(a)) to consider the "extent to which" the recommended habitat expansion action(s)

“meet the Habitat Expansion Threshold.” As described in Amended HEA Section 4.2.5, “if the Licensees and NMFS disagree that the habitat expansion action(s) recommended in the Final Habitat Expansion Plan are estimated to meet the Habitat Expansion Threshold, the Licensees *and* (emphasis added) NMFS shall select a neutral third party with appropriate expertise to make an independent estimate....NMFS shall give due consideration to the independent estimate before making its final decision on approval of the recommended habitat expansion action(s)....” To date, NMFS has not formally communicated to the Licensees its outlook as to whether or not the actions proposed in the HEP will meet the HET. Casually expressing concern that the actions proposed in the HEP may not meet the HET is not sufficient to allow the Licensees to invoke the remedy provided under Section 4.2.5.

- Long-term integrity of the Proposed Actions

The third major area of concern expressed during the meetings related to the conceptual nature of the restoration designs for the actions proposed in the HEP. The gist of the concern appeared to be that the designs were too conceptual to provide assurance that the actions would perform adequately to meet the objectives identified in the Final HEP. The Licensees believe that it is premature to reject the Final HEP based on questions of design integrity. First, the actions proposed in the HEP are hardly of an experimental nature, as similar restoration actions have been successfully completed in a variety of locations in California’s Central Valley. Second, the Amended HEA includes several process phases at which NMFS has review and approval authority over the design and function of the habitat expansion actions. Amended HEA Sections 4.3–4.9 identify the remaining phases of Planning and Implementation of Habitat Expansion Actions. These additional phases are also addressed in Chapter 5 of the Final HEP and are summarized below.

Once NMFS determines that the actions proposed in the Final HEP are eligible and *estimated* to meet the HET, the Licensees are required to submit a Preliminary Design Report (PD Report), as required by Amended HEA Section 4.3. The PD Report will provide additional detail on the design and integrity of the actions proposed in the HEP for NMFS review, as well as the opportunity for NMFS to fully evaluate whether or not the design meets the objectives of the Final HEP. The PD Report is identified in the Amended HEA as the phase in which the Licensees are required to provide the following: “(1) a preliminary design of the approved habitat expansion action(s); (2) updated cost estimates; and (3) a schedule for each of the remaining process phases in this Section 4 [of the Amended HEA].”

In turn, Amended HEA Section 4.4 describes the process by which NMFS is required to review and make “its determination of whether the Preliminary Design Report is materially consistent with the Approved Habitat Expansion Plan.” Similar review opportunities giving NMFS approval authority are built into the Amended HEA for the Final Design and Permitting Report (Amended HEA Sections 4.5 and 4.6); Preparation of Final Test Report

(Amended HEA Section 4.8), wherein the Licensees "shall perform functional start-up testing for technical validation of the specified designs for the action(s)"; and Determination of Functionality (Amended HEA Section 4.9), wherein NMFS determines "whether all element(s) of the habitat expansion action(s) relevant to the functional start-up testing are functional." The Licensees encourage NMFS, before making its determination about whether or not to approve the Final HEP, to consider all of the additional review opportunities that are built into the Amended HEA to ensure that the habitat expansion actions meet their objectives.

Response to Technical Documents

NMFS engaged technical experts Carl Mesick and David Crowder, as well as technical experts at Stillwater Sciences, to evaluate whether the Amended HEA Criteria were met by the actions proposed in the HEP. Mesick and Crowder each provided documents to NMFS which were subsequently made available to the Licensees and meeting attendees during the three meetings held in February. Although Stillwater Sciences' evaluation was provided to NMFS, it has still not been made available to the Licensees. The Licensees expect Greg Pasternack and the Lower Yuba River Accord River Management Team to respond to all three documents. The Licensees have reviewed the Mesick and Crowder documents and are providing responses to Mesick's statements in Attachment B. In summary, the Licensees disagree with Mesick's concerns regarding use of appropriately sized substrates, utilization of the proposed site, water temperature in critical dry years, and availability of sufficient adult refugia.

Next Steps for Parties

The Licensees recommend NMFS and the other Amended HEA Parties to meet to discuss the eligibility of the actions proposed in the HEA in light of the new Corps BiOp. If NMFS agrees that the actions proposed in the HEA are eligible, but still has concerns about meeting the HET, then the Licensees and NMFS should work together, as called for in the Amended HEA, to choose an independent expert who can provide an estimate of the habitat that would be provided by the proposed actions.

The Licensees stand ready, willing, and able to proceed with implementation of the actions proposed in the Final HEP. We urge NMFS to approve these on-the-ground actions as timely, certain, and significant steps to help with recovery of spring-run Chinook salmon in the Sacramento River basin. Such approval will stand in sharp contrast to waiting for years to see how the new Corps BiOp pans out, or starting detailed evaluation of other possible actions under the HEA with no certainty of timing or even outcome. NMFS' approval of the proposed actions will also demonstrate the viability of performing high-value off-site mitigation as an alternative to lower-value on-site actions.

Thank you for considering our comments. We look forward to achieving a successful outcome of the HEA process and proceeding with implementation of the recovery actions proposed in the Final HEP.

If you have any questions regarding our comments in this letter, or the information provided in the attachments, please contact either of us or the Steering Committee at hea@water.ca.gov.

Sincerely,



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David W. Moller
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Enclosures

cc: Attached List

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Attachment A
Annual Status Report

Amended Habitat Expansion Agreement for Central Valley Spring- Run Chinook Salmon and California Central Valley Steelhead

Annual Status Report
November 19, 2010 through March 31, 2012

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April 18, 2012, 2012

Amended Habitat Expansion Agreement for Central Valley Spring-Run Chinook Salmon and California Central Valley Steelhead

Annual Status Report Period of Performance

November 19, 2010 – March 31, 2012

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Introduction

Objective of the Annual Status Report

The objective of this Annual Status Report is to document milestones reached and progress achieved in implementing habitat expansion actions under the Habitat Expansion Agreement for Central Valley Spring-Run Chinook Salmon and California Central Valley Steelhead (HEA) and the Amended HEA. This Annual Status Report summarizes activities within the fourth year of the effective date of the original HEA: November 19, 2010 through March 31, 2012.

Habitat Expansion Agreement

The original HEA had an effective date of November 20, 2007, when the Pacific Gas and Electric Company (PG&E) and the California Department of Water Resources (DWR) entered into the HEA with the following parties: American Rivers; Arthur G. Baggett, Jr.; California Department of Fish and Game (DFG); U.S. Department of Agriculture Forest Service (USFS); National Marine Fisheries Service (NMFS); U.S. Fish and Wildlife Service (USFWS); and State Water Contractors, Inc. Under the agreement, PG&E and DWR had 2 years to jointly identify, evaluate, and select the most promising and cost-effective action (s) to expand spawning, rearing, and adult holding habitat for spring-run Chinook salmon and steelhead in the Sacramento River Basin, as an alternative to the resource agencies and other parties seeking project-specific fish passage prescriptions or license conditions in the new Federal Energy Regulatory Commission (FERC) licenses for PG&E's Upper North Fork Feather River Hydroelectric Project and Poe Hydroelectric Project and for DWR's Oroville Facilities Project (all of which are located in the Feather River system). More background information on the HEA can be found in the Draft Habitat Expansion Plan (PG&E and DWR 2009) and the Final Habitat Expansion Plan (PG&E and DWR 2010), which are briefly described below.

Draft Habitat Expansion Plan

As required by Section 4.1.3 of the HEA, PG&E and DWR (Licensees) prepared a Draft Habitat Expansion Plan (HEP) and submitted it to the HEA Parties on November 20, 2009. The Draft HEP described how the first phase of the HEA had been implemented and presented the Licensees' recommended actions. Recommended actions included detailed descriptions of the estimated contribution to the Habitat Expansion Threshold specified in the HEA, a pre-feasibility cost estimate, a proposed implementation schedule, the responsibilities of each Licensee, and the rationale for selecting the actions.

In the Draft HEP, the Licensees identified two groupings of habitat expansion and enhancement actions that each met the goals, terms, and conditions of the HEA: (1) the Lower Yuba River Habitat Expansion Actions (Lower Yuba River Actions); and (2) the Battle Creek, Big Chico Creek, and Antelope Creek Habitat Expansion Actions (Three-Creek Actions). The Licensees proposed to select one of these two groups of actions, as modified in response to comments received, to be included in the Final HEP and, ultimately, implemented under the HEA.

Final Habitat Expansion Plan

As required by Section 4.2 of the HEA, the Licensees prepared the Final HEP and submitted it to NMFS for approval on November 19, 2010. The HEA originally identified a 180-day period for completion of

the Final HEP. However, the Licensees received significant comments on the Draft HEP, and NMFS commented that the Draft HEP was deficient and recommended that the Licensees request an extension of 6 months to complete the Final HEP. The Licensees requested and were granted a 6-month extension for the purposes of (1) responding to the comments on the Draft HEP, most significantly to address questions regarding the estimates of the contributions of the recommended actions to the Habitat Expansion Threshold (HET) and the eligibility of some of the actions; (2) further developing the actions presented in the Draft HEP; and (3) re-evaluating potential actions in the Upper Yuba River based on new information provided by NMFS.

The recommended actions in the Final HEP consisted of the following three components, collectively referred to as the Lower Yuba River Actions:

- Expansion of spawning habitat at Sinoro Bar in the Englebright Dam Reach above the Deer Creek confluence;
- Expansion of spawning habitat at Narrows Gateway in the Narrows Reach below the Deer Creek confluence; and
- The option of planning for and installing a seasonally operated segregation weir on the Yuba River below the outlet of the Narrows Pool to segregate spring-run and fall-run Chinook salmon, if deemed necessary by the resource agencies (NMFS, USFWS, and DFG).

The recommended actions were modified since the Draft HEP based on comments and additional information. The Licensees removed the Three-Creek Actions from consideration in the Final HEP based on anticipated full or partial funding for the actions from other sources. The Licensees re-evaluated potential actions in the Upper Yuba River based on additional information provided by NMFS and determined that these actions presented technical, legal, social, and logistical hurdles that preclude their completion in a timely manner. Therefore, the Licensees could not recommend the Upper Yuba River Actions for consideration under the HEA at the time the Final HEP was completed.

The Lower Yuba River Actions, however, would achieve the goals of the HEA by expanding habitat in the Yuba River below Englebright Dam to support spawning, rearing, and adult holding of spring-run Chinook salmon and steelhead. This group of actions was estimated to expand the habitat sufficiently to exceed the HET. The actions rated favorably on a number of HEA criteria, including supporting segregation between fall-run and spring-run Chinook salmon and having a high potential to establish another independent, self-sustaining population of spring-run Chinook salmon in the Sacramento River Basin.

Activities since Completion of the Final Habitat Expansion Plan

Water Quality Certification for the Oroville Facilities

On December 15, 2010, the State Water Resources Control Board (SWRCB) adopted a Water Quality Certification for the Oroville Facilities FERC Project 2100 that included Condition S9, requiring DWR to

implement the HEA. The inclusion of Condition S9 created a new regulatory framework that necessitating amending the HEA.

DWR's Notice of Intent to Withdraw from the HEA

On December 24, 2010, DWR issued its Notice of Intent to Withdraw from the HEA due to the SWRCB's issuance of the Water Quality Certification for the Oroville Facilities that included terms that were materially inconsistent with the terms of the HEA as defined in Section 11.2.2 of the HEA. DWR then offered to meet with the other HEA Parties to discuss options for alleviating DWR's concerns, in accordance with Section 11.3.2 of the HEA. The HEA Parties agreed to amend the HEA to resolve the inconsistencies.

Amended HEA

The *Amended Habitat Expansion Agreement for Central Valley Spring-Run Chinook Salmon and California Central Valley Steelhead* (Amended HEA), dated March 2011, was negotiated to resolve material inconsistencies between the Water Quality Certification for Oroville Facilities FERC Project 2100 and the original HEA. The agreement became effective May 9, 2011 and was entered into by the following parties: DWR; PG&E; American Rivers; DFG; USFS; NMFS; USFWS; and State Water Contractors, Inc. The Amended HEA recognizes that "the inclusion of Condition S9 in the WQC [for the Oroville Facilities] creates a new regulatory framework which necessitates amending the August 2007 Agreement to account for this new regulatory framework." Among other changes, the Amended HEA changed Section 11.2.2 of the HEA to state the following: "The Parties agree that issuance of Condition S.9 of the water quality certification for the Oroville Facilities is not a basis for withdrawal from this Agreement." In addition, to account for the new regulatory authority over the HEA given to the SWRCB and FERC, Section 11.2.3 was added to provide that a "Party may withdraw from the Agreement if...the SWRCB, FERC or court does not provide a decision or authorization necessary to timely implement [an] approved plan or imposes conditions materially inconsistent with the approval and its timely implementation." Once the Amended HEA became effective, DWR rescinded its Notice of Intent to Withdraw from the HEA by letter to the Amended HEA Parties on May 10, 2011. Then, DWR distributed copies of the fully executed Amended HEA to all Parties on June 2, 2011.

NMFS 60-day Pre-Approval Consultation on the Final Habitat Expansion Plan

Section 4.2.2 of the Amended HEA identifies that "prior to approving the Final Habitat Expansion Plan, NMFS shall commence a 60-day consultation process with all Parties, SWRCB, and directly affected and responsive third parties." On February 21, 2012, NMFS initiated the 60-day consultation period and held three meetings, on February 21, 24, and 28, 2012. The stated purpose of the meetings was to provide a briefing on NMFS findings in their review of the HEP, solicit comments, discuss a schedule for final determination, and discuss options for moving forward. The Licensees attended all three meetings and participated in the presentation by providing an overview of the Amended HEA, the steps taken to meet the habitat expansion objectives of the Amended HEA, and a description of the proposed actions presented by the Licensees in the Final HEP.

Biological Opinion for the U.S. Army Corps of Engineers' Operation and Maintenance of Englebright and Daguerre Point Dams and Englebright Reservoir on the Yuba River

On February 29, 2012, NMFS transmitted its biological opinion for the U.S. Army Corps of Engineers' (Corps) operation and maintenance of Englebright and Daguerre Point dams and Englebright Reservoir on the Yuba River (Yuba River BiOp). The Corps has publicly stated that the Yuba River BiOp "requires actions that are outside of the Corps' authority" (http://www.spk.usace.army.mil/organizations/cespk-co/lakes/Englebright_YubaRiverBioOp.html accessed on April 18, 2012). The jeopardy opinion for spring-run Chinook salmon, California Central Valley steelhead, and green sturgeon, includes a Channel Restoration Program in the Reasonable and Prudent Alternative, which directs the Corps to develop a Channel Restoration Plan for the Englebright Dam Reach and upper portions of the Narrows Reach of the Yuba River. The Licensees recognize that the inclusion of these channel restoration actions in the biological opinion, making them responsibility of the Corps, calls into question the eligibility of the Proposed Actions in the Final HEP. However, in light of the Corps questioning their authority to implement requirements of the Yuba River BiOp as well as their recognized funding constraints, it seems unlikely that the Corps would be able to implement the channel restoration in a timeframe comparable to that which the Licensees could implement the Proposed Actions in the Final HEP. Section 3.2 of the HEA states that Existing Requirements and Conditions are *those that are expected to occur in a timeframe comparable to the actions in the HEA*. The Corps BiOp cannot be considered an Existing Requirement and Condition because the implementation of that RPA is many years away and in fact may not ever occur due to a variety of factors, whereas implementation of the HEP can begin upon NMFS' approval. Therefore, despite the apparent overlap between the Final HEP and the Yuba River BiOp, we believe that the Proposed Actions should be considered eligible under the Amended HEA.

Attachment B

Response to Technical Document Prepared by Carl Mesick

- 1) **Mesick: (Gravel size too large)** - *Using nearby mine tailings to save money will likely yield material that is too large for successful spawning.*

Steering Committee Response: Section 3.3.1.3 of the Final HEP states "Gravel would be purchased and hauled from a local quarry to the project site by truck and distributed by heavy equipment." Pasternack et al. (2010) suggested that downstream tailing berms may provide suitably sized gravel. To clarify, this statement doesn't mean the *entire* supply of gravel will come from tailings. However, it would be cost efficient to use any *appropriately sized* gravel from nearby mine tailings.

- 2) **Mesick: (Few spring-run would utilize proposed site)** - *In 2009, only 42% of fish migrated into the Narrows Reach. This would not only make it difficult to reach the HET of an increase of 2,000 to 3,000 adult spring-run, it will also make the proposed segregation weir useless.*

Steering Committee Response: Section 3.2.3.1 of the Final HEP states "Lack of suitable spawning habitat in the Englebright Dam Reach and the Narrows Reach" has been identified as one of five primary limiting factors to establishing a viable, independent spring-run Chinook salmon population in the Lower Yuba River. Once habitat is improved, the number of fish utilizing this stretch of river should increase. The following citations describe the potential for spring-run Chinook utilization in the proposed area:

- "The suitability of the river for summer holding (June through September) and late summer-early fall spawning (August through October) generally increases in an upstream direction, with the highest quality habitat in the 4-mile reach between the Narrows Pool and the Highway 20 Bridge known as Timbuctoo Bend (HEP 3.2.3.1)."
- "Little spawning habitat now exists in the 2-mile reach extending from the Narrows Pool upstream to Englebright Dam because of its steep gradient, lack of sediment supply, and armoring by rock debris (Pasternack 2008)."
- "Spring-run Chinook salmon are known to hold in this reach and attempt to spawn despite the lack of suitable spawning habitat (NMFS 2007)."

Finally, Mesick cites Alber's 2009 telemetry study when only 42% of spring-run Chinook that migrated past Daguerre Point Dam made it as far as the Englebright Dam Reach (10 of 24 fish). However, in Alber's 2010 telemetry study, it appears that 88% of spring-run Chinook that migrated past Daguerre Point Dam made it to the Englebright Dam Reach (15 of 17 fish).

- 3) **Mesick: (Water temperatures were not considered in HEP)** - *High temperatures might result in substantial spring-run mortality due to surface water releases from Englebright Reservoir when reservoir levels are low and due to low flows below Daguerre Point Dam during Dry water year types.*

Steering Committee Response: Section 4.2 of the HEP discusses the flow and temperature conditions in the action area in addition to describing how the Yuba Accord provides enhanced water temperature/flow conditions for salmonids in the Englebright Dam Reach (HEP 4.2).

The Lower Yuba River Accord has taken into account the risk of low-flow conditions in critically dry years. The Accord has a set of “flow schedules” for a variety of conditions from “ideal” flows (no limits or constraints) to “survival” flows (extreme drought years). The “survival” flow schedule allows for the minimal release of water to foster the survival of drought year returning adults (Yuba County Water Agency et al. 2007).

<http://www.yubaaccordrmt.com/Yuba%20Accord%20Documents/Yuba%20Accord%20Flow%20Schedules/Yuba%20Accord%20Flow%20Schedules%20and%20Reservoir%20Index.pdf>

- 4) **Mesick: (Unnaturally large gravel beds with inadequate adult refugia may result in low spawner use and low egg survival)** - *Spawning habitat rehabilitation projects in the Englebright Dam reach may not be effective because dredger tailings could be used to construct unnaturally large gravel beds with an inadequate amount of adult refugia. The plan proposes a uniform section of spawning gravel. No modeling was conducted so it is possible that the design would be abnormally unstable during high flow releases.*

Steering Committee Response: Pasternack et al. (2010) acknowledge the common misconception that gravel injections over degraded historical spawning grounds will trigger successful spawning “regardless of the suitability of the hydraulic and cover conditions.” Additionally, Pasternack recommends the HEP follow a SHIRA (Spawning Habitat Integrated Rehabilitation Approach) framework in its restoration attempts. SHIRA has been applied successfully in spawning habitat restorations on the Mokelumne, Trinity, American, Feather, and Yuba Rivers. In addition to re-grading the proposed project site to attain an ideal riffle-to-riffle slope, Pasternack et al. (2010) suggests “incorporating 1-2 pools would provide holding habitat, and with the addition of boulders and streamwood, there would be adult spawner refugia in proximity to redd construction points and juvenile habitat.” Finally, Section 3.3.1.2 of the HEP calls for Sinoro Bar’s current “rapid-pool” and “chute-pool” configuration to be modified into “riffle-pool” and “run-pool” sequences. Additionally, “morphological diversity would be incorporated by creating a functional mosaic of geomorphic forms, rather than excessively large contiguous areas of uniform habitat. In particular, holding pools with associated cover would be incorporated into the design of the expanded spawning habitat...the effort to reshape the streambed would include design considerations for maximizing the sustainability of this action.”

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